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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,112	10/21/2005	Yosuhiko Osame	279831US90X PCT	9429
22850	7590	01/24/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER TOLAN, EDWARD THOMAS	
			ART UNIT 3725	PAPER NUMBER
			NOTIFICATION DATE 01/24/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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SP

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/554,112	OSAME, YOSUHIRO	
	<b>Examiner</b>	<b>Art Unit</b>	
	Edward Tolan	3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11-12-2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 10-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8 and 9 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election of Group I claims 1-9 on 11-12-2007 is acknowledged.

Claims 10-29 have been withdrawn from consideration as inventions non-elected without traverse.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2 and 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugio (JP 56-165512) in view of Litwinski et al. (6,726,085) and further in view of Tanaka et al. (6,892,928). Sugio discloses a tubular metal body (11) extruded through a porthole die (14) wherein a plurality of components are welded together in a pressure chamber (17) and joined by joints (13). Sugio does not disclose a surface modifying treatment. Litwinski teaches (column 6, lines 3-16 and column 10, lines 50-53) that it is known to use a rotating pin (28) to modify and refine grain structure during an extrusion or shaping process. Litwinski teaches (column 11, lines 7-11) that the modifying results in a product that resists cracks and has improved strength and fatigue resistance. It would have been obvious to one skilled in the art at the time of invention to use a grain refinement means as taught by Litwinski in the invention of Sugio in order to increase the strength of the tubular body and avoid cracking.

Litwinski in view of Sugio does not disclose applying the probe at only the joint. Tanaka teaches that it is known to use a probe (14) to weld a joint line (6) to form a tube (4). It would have been obvious to one skilled in the art at the time of invention to apply friction stir welding to the joints of Sugio in view of Litwinski as taught by Tanaka in order to create a strong bond in the tube.

Friction stir welding is known by the skilled artisan to produce joints between components that are strong.

Claims 3-5,8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugio in view of Litwinski and Tanaka and further in view of Aota et al. (6,581,819). Sugio in view of Litwinski and Tanaka does not disclose partitions. Aota teaches extruded panels (31,32) with partitions (35) that are welded at a joint (45) by a probe (52). It would have been obvious to one skilled in the art at the time of invention to provide the tube of Sugio in view of Litwinski and Tanaka with partitions as taught by Aota in order to increase a structural integrity of the tube.

***Allowable Subject Matter***

Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record does not disclose that the modifying treatment by frictional agitation in the joint portions is performed immediately after extrusion as the base material is extruded from an extruder.

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***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication should be directed to Ed Tolan whose telephone number is 571-272-4525. FAX communications should be sent to 571-273-8300.

ED TOLAN  
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'Ed Tolan', is written over the printed name and title.